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APPLICA	ON IN AN ATION			Title Cannabimimetic Lipid Amides as Useful					
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04	WO 94/12466 A	06/19	94		Yiss Co.	um Research Development		English	
				<u> </u>					
) }	OTHER DOO	CUME	NTS	(Including Au	ithor, T	ïtle, Date, Pertinent	Pages, Etc.)		
Examiner Initial									
2 P	Supplementary Eu November 1,		Sea	arch Report	for EF	Application No	. 99 96 1838	dated	
	Hanus, L. et al, "Two New Unsaturated Fatty Acid Ethanolamides in Brain That Bind to the Cannabinoid Receptor" JOURNAL OF MEDICINAL CHEMISTRY, vol. 36, no. 20, 1993, pp. 3032-3034						hat Bind to no. 20,		
_	Mechoulam, R. et al, "Towards cannabinoid drugs – revisited" PROGRESS IN MEDICINAL CHEMISTRY, ELSEVIER, AMSTERDAM, NL, vol. 35, 3 July 1998, pp. 199-243								
					_				
Examiner	C091			Date Consid	lered	87051			
EXAMINER	: Initial if citation consider	ered, whe	ther	or not citation	is in co	onformance with MF	EP \$609; Draw li	ne through	
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INFORMATION DISCLOSURE CITATION IN AN APPLICATION

Application No. Inventor O9/600,786 Alexandros Makriyannis et al

Title

Cannabimimetic Lipid Amides as Useful Medications

Filing Date Group Art Unit Docket No.

07/21/2000 1614 UCONAP/145/PC/US

## **UNITED STATES PATENT DOCUMENTS**

Examiner Initial	Document No.	Date	Name	Class
JP	09/698,071	10/30/00	Fride et al, (copy not included, this is the parent application for US Publication No. 2002/0173528, enclosed herewith)	
	09/701989	6/9/99	*1* Makriyannis et al (copy not included, this is the U.S. National Phase of the Int'l Application published as WO 99/64389 enclosed herewith)	
	10/110865	10/18/00	Makriyannis et al (copy not included, this is the U.S. National Phase of the Int'l Application published as WO 01/29007 enclosed herewith)	
	10/110830	10/18/00	Makriyannis et al (copy not included, this is the U.S. National Phase of the Int'l Application published as WO 01/28329 enclosed herewith)	
	10/110812	10/18/00	Makriyannis et al (copy not included, this is the U.S. National Phase of the Int'l Application published as WO 01/28497 enclosed herewith)	
	10/110862	10/18/00	*1* Makriyannis et al (copy not included, this is the U.S. National Phase of the Int'l Application published as WO 01/28498 enclosed herewith)	
	10/111059	10/18/00	Makriyannis et al (copy not included, this is the U.S. National Phase of the Int'l Application published as WO 01/28557 enclosed herewith)	
	10/493093	10/28/02	Makriyannis et al (copy not included, this is the U.S. National Phase of the Int'l Application published as WO 03/35005 enclosed herewith)	
- E	10/647544	8/25/03	Makriyannis et al	
	10/790498	3/1/04	Makriyannis et al	

	MATION DISCLO	SURE		olication No. /600,786	Inventor Alexandros Makriyannis et al		
CITATIO   APPLIC	ON IN AN ATION	į	Title Cannabimimetic Li		ipid Amides as Useful Medications		
i					Group Art Unit 1614	Docket No. UCONAP/145/PC/US	
20	2002/0119972	8/29/0	2	Leftheris et al			
AA	2002/0173528	11/21/	02	Fride et al			
	2003/0120094	6/26/0	3	Makriyannis e	t al		
	2003/0149082	8/7/03		*1* Makriyanı	nis et al		
	2004/0077649	4/22/0	4	Makriyannis e	t al		
	2004/0077851	4/22/0	4	Makriyannis e	t al		
	2004/0087590	5/6/04		Makriyannis e	t al		
	3041343	6/26/6	2	Jucker et al			
	3465024	9/2/69		*1* Brownste	in et al		
	3573327	3/30/7	1	Miyano			
	3577458	5/4/71		*1* Brownste	in et al		
	3656906	4/18/7	2	Bullock			
	3838131	9/24/7	4	Gauthier			
	3886184	5/27/7	5	Matsumoto et	al		
	3897306	7/29/7	5	Vidic			
	3915996	10/28/	75	Wright			
	3928598	12/23/	75	Archer			
	3944673	3/16/7	6	Archer			
	3946029	3/23/7	6	Descamps et	al		
	3953603	4/27/7	6	Archer			
	4036857	7/19/7	7	Razdan et al			
	4054582	10/18/	77	Blanchard et a	al		
	4087545	5/2/78		Archer et al			
	4087546	5/2/78		Archer et al			
	4087547	5/2/78		Archer et al			
	4088777	5/9/78		Archer et al			
	4102902	7/25/7	8	Archer et al			
	4152450	5/1/79		Day et al			
	4171315	10/16/		Ryan et al			
	4176233	11/27/	_	Archer et al			
	4179517	12/18/	79	Mechoulam			
	4188495	2/12/8		Althuis et al			
	4208351	6/17/8		Archer et al			
	4278603	7/14/8		Thakkar et al			
	4282248	8/4/81		Mechoulam e	t al		
	4382943	5/10/8		Winter et al			
7	4395560	7/26/8	3	Ryan			

	INFORMATION DISCLOSURE		09	olication No. /600,786	Inventor Alexandros I	Makriyannis et al		
CITATIC APPLIC			Title Ca	<sup>ritle</sup> Cannabimimetic Lipid Amides as Useful Medica				
, d , E.O				ng Date	Group Art Unit	Docket No.		
			/21/2000	1614	UCONAP/145/PC/US			
jo o	4497827	2/5/85		*1* Nelson				
W	4550214	10/29/	85	Mehta				
T	4758597	7/19/8	8	Martin et al				
	4812457	3/14/8	9	*1* Narumiya				
	4876276	10/24/	89	Mechoulam				
	4885295	12/5/8	9	Bell et al				
	5053548	10/1/9	1	Tanaka et al				
	5068234	11/26/	91	D'Ambra et al				
	5147876	9/15/9	2	Mizuchi et al				
	5223510	6/29/9	3	Gubin et al				
	5284867	2/8/94		Kloog				
	5324737	6/28/9	4	D'Ambra et al				
	5434295	7/18/9	5	Mechoulam e	t al			
	5440052	8/8/95	)	Makriyannis et al				
	5462960	10/31/	95	Barth et al				
	5489580	2/6/96	)	Makriyannis e	t al			
	5521215	5/28/9	6	Mechoulam				
	5532237	7/2/96	5	Gallant et al				
	5538993	7/23/9	6	Mechoulam				
	5576436	11/19/	96	*1* McCabe e	et al			
	5605906	2/25/9	7	Lau				
	5607933	3/4/97	,	D'Ambra et al				
	5618955	4/8/97	,	*1* Mechoula	ım et al			
	5624941	4/29/9	7	Barth et al				
	5635530	6/3/97	,	Mechoulam				
	5688825	11/18/	97	*1* Makriyan	nis et al			
	5747524	5/5/98	}	Cullinan et al				
	5744459			Makriyannis e	t al			
	5804601	9/8/98	3	*1* Kato et al EP0737671)	(appears eq	uivalent to		
	5817651	10/6/9	8	D'Ambra et al				
1	5872148	2/16/9	9	Makriyannis e	t al			
	5874459	2/23/9		*1* Makriyan				
-	5925628	7/20/9		*1* Lee et al				
	5925768	7/20/9		Barth et al				
- J	5932610	8/3/99		Shohami et al				

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	MATION DISCLO	SURE	09.	-	etic I		Makriyannis e	
APPLIC	Fi			annabimimetic Lipid Amides as Useful Med  Ing Date Group Art Unit Docket No. 7/21/2000 1614 UCONAP/14				
8	5948777	9/7/99	)	Bender e	t al		<u> </u>	
	6013648	1/11/0	0	Rinaldi e FR27357		ppears equiv	alent to	
	6028084	2/22/0	0	Barth et a	al			
	6096740	9/1/00	)	Mechoula	am			
	6127399	10/3/0	0	Yuan				•
	6166066	12/26/	00	Makriyan	nis e	t al	_	
	6284788	10/4/0	1	Mittendor EP86016		ıl (appears eq	uivalent to	
	6391909	5/21/0	2	*1* Makr	iyanı	nis et al	· <del>-</del>	
	6579900	6/17/0	3	*1* Makr	iyanı	nis et al		
	6610737	8/26/0	)3	Garzon e	et al			
7								
		FORE	IGN		DOC	UMENTS		
Examiner Initial	Document No.	Dat		Country		Name		Translation
	EP0276732	8/3/8		EP	Hoffman La Roche			
	EP0444451	9/4/9	1	EP	bibli cove equ	ding Drug (Enlography, absoluted appearance in the discourage) appearance in the discourage in the discourage (Enloge in the discourage in the discourage (Enloge in the discourage in the discourag	tract and ars 5068234	
	EP0471609	6/29/	9/93 EP		Gubin et al, in French, front page only (English bibliography and abstract, appears equivalent to US5223510)			
	EP0737671		/16/96 EP		Inde (bib equ	Takeda Chen ustries, front liography, ap ivalent to US	page only opears 5804601)	
	EP0860168	9/4/0	1	EP	fron Eng app	endorf et al, ir t page only (ir lish bibliograp ears equivale 5284788)	ncluding by,	

	INFORMATION DISCLOSURE			ication No. 600,786		Inventor Alexandros Makriyannis et al		
APPLIC	ON IN AN CATION		Title Car	nabimim	etic l	_ipid Amides as Useful Medications		
				Date 21/2000		Group Art Unit 1614	Docket No. UCONAP/1	45/PC/US
7	FR2240003	5/27/7	7/75 FR		(inc bibl app	sumoto et al, luding English iography and a ears equivale 3886184)	abstract,	
	FR2735774	1/11/0	00	FR	(inc bibl app US	th et al, in Fre luding English iography and lears equivale 6013648)	abstract, nt to	
	GB2027021A	2/13/8	30	GB	(ap	choulam et al, pears equivale 4282248)	ent to	
	JP2304080	12/17	/90	JP	Jap	kayama Hajim kanese (includi iography and	ing English	
	JP57098228	6/18/8	32	JP	(inc	la et al, in Jap luding English iography and	1	
	WO 01/28329	4/26/0	01		Mal	kriyannis et al,	in English	
	WO 01/28497	4/26/0	01		Mal	kriyannis et al,	in English	
	WO 01/28498	4/26/	01		Eng	Makriyannis glish		
	WO 01/28557	4/26/0	01			kriyannis et al,		
	WO 01/29007	4/26/0	01			kriyannis et al,		
	WO 01/32169	5/10/0	01			le et al, in Eng		
	WO 01/58869	8/16/0	:		pag bibl app US:	ndit et al, in En le only (includi lography and lears equivale 2002/0119972	ing abstract, nt to	
	WO 02/058636	8/1/0			<del></del>	kriyannis et al,		
	WO 02/060447	8/8/0				kriyannis et al,		
	WO 03/005960	1/23/				kriyannis et al,		
	WO 03/020217	3/13/				kriyannis et al		
	WO 03/035005	5/1/0			-	kriyannis et al		
	WO 03/063758	8/7/0				zon et al, in E		
4	WO 03/064359	8/7/0	3		Gai	zon et al, in E	nglish	

CITATIO	INFORMATION DISCLOSURE CITATION IN AN APPLICATION		09/		etic I	<u> </u>	Inventor Alexandros Makriyannis et al Lipid Amides as Useful Medications	
AFFLIC	ATION		Filing	Date 21/2000		Group Art Unit 1614	Docket No. UCONAP/1	
9	WO 97/00860	1/9/9	(inclu biblic appe		aldi et al, in F luding Englis lography and ears equivale 6013648)	h abstract,		
	WO 99/57106	11/11	/99		Mal	kriyannis et a	l, in English	
	WO 99/57107	11/11				kriyannis et a		
	WO 99/64389	12/16	3/99			Makriyannis <sub>I</sub> lish	et al, in	
	THER DOCUMEN	TS (In	cludi	ng Authoi	r, Titl	e, Date, Pert	inent Pages,	Etc.)
Examiner Initial	r							
								-
	Makriyannis A possessing hi 37(12); 1889-1 XP002040932 Alo, B.I.; Kandi V. Sequential I Reactions. A g Dibenzo[b,d]py 3763-3768	igher p 893; 1 il, A.; P Directe eneral rran-6-c	poter 994; Patil, d Ort Regiones	P. A.; Shatho Metalatiospecific Related 1	netal JM( arp, M ation Roul to Ell	bolic stabilit CMAR; ISSN M. J.; Siddiqu Boronic Acid te to Oxygend agic Acid, J.	y"; J. Med. C : 0022-2623; i, M. A.; and S I Cross-Couplerated Org. Chem.	hem.; Snieckus, ling
	ketocannabino	•				• •		) <i>77</i> )
	Arnone M., Ma ethanol intake receptors, Psy	ruani J by SR1 chopha	., Ch 1417 irma	naperon P 16, an an cal, (1997	, et a tago () 132	al, Selective in nist of central 2, 104-106. (a	nhibition of su I cannabinoid abstract only	crose and (CB1)
	*1* Barnett-Norris et al; "Exploration of biologically relevant conformations of anandamide,"; J. Med. Chem.; vol. 41; 4861-4872; 1998							
	Beak, P.; and I Ortho Lithiation	1, J. Or	g. Cl	nem. 198	2, 47	7, 34-36		
	Belgaonkar et 4; 336-338; 19				coun	narins"; Indiai	n J. Chem; vo	il. 13; no.
8	4; 336-338; 1975 (abstract only)  *1* Beltramo M., Stella N., Calignano A., Lin S. Y., Makriyannis A., Piomelli D; "Functional Role Of High-Affinity Anandamide Transport, as Revealed By Selective Inhibition"; Science; vol. 277; 1094-1097; 1997					Affinity Anar	ndamide Trai	

INFORMATION DISCLOSURE		Application No. 09/600,786	Inventor Alexandros	Makriyannis et al
CITATION APPLICA		Title Cannabimimetic I	_ipid Amides a	as Useful Medications
		Filing Date 07/21/2000	Group Art Unit 1614	Docket No. UCONAP/145/PC/US
20	*1* Beltramo M., Ste	lla N., Calignano	A., Lin S. Y.,	Makriyannis A.,
14	Piomelli D; "Identific			
	Anandamide Transp	ort"; The Neurose	ciences Insti	tute (1 page)
	*1* Beltramo M., Pio	melli D; "Anandaı	mide Transpo	ort Inhibition by the
	Vanilloide Agonist C	Ivanil"; Europeea	an J. of Phari	macology; (1999);
	364(1); 75-78 (abstr	act only)		
	Berdyshev EV, Canna			
	response. Chem Phys	s Lipids. 2000 Nov	; 108(1-2):169	9-90
	*1* Berglund et al; "			
	arachidonylethanola			
	receptors: "; Pro			ds essential fatty
	acids; 59(2); 111-118	8; (1998). (abstrac	t only)	
	Bodnar, V.N., Lozinsł			
	1,3,4-oxadiazoles and			
		(Russian Edition);	48(12); 1308-	1311; 1982 (abstract
	only)			
	Bracey, M et al, Struc Terminates Endocant 1796			e Enzyme That 002; 298(5599): 1793-
	Brenneisen R, Pgli A,	Elsohly MA, Henn	V. Spiess Y:	The effect of orally and
	rectally administered	Δ9 – tetrahydrocar	nabinol on sp	pasticity, a pilot study
	with 2 patients. Int. J.	Clin Pharmacol Th	ner. (1996) 34	:446-452. (abstract
	only)			
	Brotchie JM: Adjuncts reducing the problem (1998)13:871-876. (a	of dyskinesia in Pa bstract only)	arkinson's dis	ease. Mov. Disord.
	Brown et al; "Synthes			
				orane with its 2-methyl
1 1	and 2-ethyl analogue			representative
	alkenes"; J. Org. Che			
				lation by cannabinoids
1 1	is absent in mice defi		binoid CB2 r	eceptor"; Eur. J
<b>—</b>	Pharmacol (2000) 39		rocenters	" Piochom Pionhus
				."; Biochem. Biophys.
<del></del>	Res. Commun.; vol. 1			
	Busch-Peterson et al hydroxyhexahydrocar			
		madino analogs ,	J. MEG. CHEII	n., ua, ui au-ui au,
Y	(1996)		<del>_</del>	

	TION DISCLOSURE	Application No. 09/600,786	Inventor Alexandros	Makriyannis et al			
CITATION APPLICAT		Title Cannabimimetic L	ipid Amides	as Useful Medications			
		Filing Date 07/21/2000	Group Art Unit 1614	Docket No. UCONAP/145/PC/US			
20	Calignano A, La Rana	a G. Diuffrida A, Pic	omelli D; "Cor	ntrol of pain initiation by			
20	endogenous cannabii						
	*1* Calignano A., La	La Rana G., Beltramo, M., Makriyannis A., Piomelli D;					
	"Potentiation of Ana AM404"; Eur. J. Pha	• •	•	Transport Zinhibitor,			
	*1* Calignano A., La	Rana G., Makriya	nnis A., Lin.	S., Beltramo M.,			
	Piomelli D; "Inhibition						
	<b>Endogenous Canna</b>	<u>binoid"; Eur. J. Pl</u>	narmacol.; 1	997; 340 R7-R8			
	in the management o 7;323(7303):13-6	f pain? A qualitativ	e systematic	d safe treatment option review"; BMJ. 2001 Jul			
	Cannabinoid Recepto	r"; J. Med. Chem.,	35, 3076 - 30				
	Charalambous A. et a Pharmacol. Biochem.						
	Cheng et al; "Relation concentration of Inhib Enzymatic Reaction"; (abstract only)	itor which causes	50% Inhibitior	n (IC50) of an			
	*1* Cherest M., Lusc anhydride on the lit	nium nitronate sal	t of 2-pheny	chloride and of acetic Initroethane"; vith English abstract			
	*1* Cherest M., Lusi						
	electron deficient co						
	acetyloxyamides"; 1						
	after the cannabinoid PL117. (abstract onl	antagonist SR141	716"; Life Sci				
	*1* Compton D.R. et	al; "Pharmacolog	gical Profile	Of A Series Of			
	Bicyclic Cannabinoi	d Analogs: Class	ification as C	Cannabimimetic			
	Agents"; J. Pharma	col. Exp. Ther.; 26	0; 201-209; ·	1992. (abstract only)			
		delta8 delta9- and	d delta9,11-te	nation of ether and trahydrocannabinol"; J.			
1	Med. Chem; vol. 34; no. 11; 3310-3316; 1991  Consroe P, Musty R, Rein J, Tillery W, Pertwee R; "The perceived effects of smoked cannabis on patents with multiple sclerosis"; Eur. Neurol. (1997) 38-44-48. (abstract only)						

INFORMATION DISCLOSURE	Application No. 09/600,786	Inventor Alexandros	Makriyannis et al
CITATION IN AN APPLICATION	Title Cannabimimetic I	_ipid Amides	as Useful Medications
	Filing Date 07/21/2000	Group Art Unit 1614	Docket No. UCONAP/145/PC/US
Coxon et al; "Derivati	· ·	lust. J. Chem	.; 23; 1069-1071;
(1970) (abstract only		<del></del>	
Crawley et al; "Ananc			
receptor, induces hyp			
Pharmacology Bioch			
Bioorg. & Med. Chem			cannabinoid mimetics";
*1* *** D'Amour F.E.			ing Loss Of Pain
Sensation"; J. Phar			
	•	-	2,3-a]quinolizidines to
	•	_	Tetrahedron Letters;
30(6) 710-722; 1989			
			dogenous cannabinoid
anandamide inhibits		-	ration"; Proc. Natl.
Acad. Sci. USA (July			*1
			nide amidohydrolase
			270; 6030-6035; (1995)
metabolism and bin			es inhibit anandamide
Res. Commun. 231(			
291X; XP002040933			
		tic synthesis	and degradation of
anandamide, a canr			
Pharmacology; 46(5			
			tion of a Cannabinoid
	ain"; Mol. Pharmac	ol., 34, 605 <i>-</i> (	613 (1988). <b>(abstract</b>
only)			
			; "Endocannabinoids:
endogenous cannabi		as with neuro	modulatory action";
Trends Neurosci. (19		Poss P I	Prockie H
Stevenson, L., Perty			* *
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	•	• •	noid system"; FEBS
Letters; (1998); 437			
			ptosomes: Comparison
with Alternative Proce	•		•
only)			

INFORMATION DISCLOSURE CITATION IN AN	Application No. 09/600,786		Makriyannis et al	
APPLICATION	Cannabimimetic Lipid Amides as Useful Medications			
	Filing Date Group Art Unit Docket No. 1614 UCONAP/145/P			
Dominiami et al; "Syr 344-346; (1977)	thesis of 5-(tert-All	(yl)resorcinols	"; J. Org. Chem. 42(2);	
41(19); 3596-3608 (1	Drake et al, "classical/nonclassical hybrid cannabinoids"; J. Med. Chem.; v 41(19); 3596-3608 (1998)			
Edery et al; "Activity of Chem.; 27; 1370-137		abinoids in ba	aboons"; J. Med.	
Eissenstat et al; "Am cannabinoid mimetics 3105; XP 000651090	s"; J. Med. Chem. 1		relationships of novel No. 16, pp. 3094-	
	nabinol and Four of		The Total Synthesis of J. Amer. Chem. Soc.	
Fahrenholtz; "The syltetrahydrocannabinol				
CLVI. 1,3-dipolar cyc	Fisera, L., Kovac, J., Lesco, J., Smahovsky, V.; "Furan derivatives. Part CLVI. 1,3-dipolar cycloadditions of heterocycles. V. Reaction of C-acetyl-N-phenylnitrilimine with furan derivatives"; Chemicke Zvesti; 35(1); 93-104			
*1* Fride, E. & Mech cannabinoid recept European Journal o	oulam, R.; "Pharn or agonist, anand	amide, a brai	n constituent";	
Galiegue S et al.; "E receptors in human in Biochem.; 1995 Aug	xpression of centra mmune tissues and	l and peripher leukocyte su	ral cannabinoid bpopulations"; Eur J	
M.; Tremblay, N.; We activity relationships	Gareau, Y.; Dufresne, C.; Gallant, M.; Rochette, C.; Sawyer, N.; Slipetz, D. M.; Tremblay, N.; Weech, P. K.; Metters, K. M.; Labelle, M.; "Structure activity relationships of tetrahydrocanabinol analogs on human cannabinoid receptors"; Bioorg. Med. Chem. Lett. 1996, 6(2), 189-194			
Gold et al; "A compartetrahydrocannabinol Pharmacol. Exp. The	Gold et al; "A comparison of the discriminative stimulus properties of delta9- tetrahydrocannabinol and CP 55,940 in rats and rhesus monkeys"; J. Pharmacol. Exp. Ther.; vol. 262(2); 479-486; 1992			
Green K.; "Marijuana Arch. Ophthamol. (19	998) Nov. 116(11);	1433-1437. (a	bstract only)	
Hampson, A.J., Grim tetrahydrocannabinol USA (July 1998) 95;	are neuroprotectiv	•	abidiol and (-) ∆9 s"; Proc. Natl Acad Sci.	

INFORMATION DISCLOSURE		Application No. 09/600,786	Inventor Alexandros	Makriyannis et al	
CITATION APPLICA		Title Cannabimimetic Lipid Amides as Useful Medications			
		Filing Date 07/21/2000	Group Art Unit 1614	Docket No. UCONAP/145/PC/US	
-0	Hargreaves, K. et al;	"A new sensitive m	ethod for me	asuring thermal	
/ χ	nociception in cutane only)				
	with marijuana"; J. Ps	ychopharmacol, (1	993) 7:389-3		
	Herzberg U, Eliav E, WIN 55,212-2 mesyla neuropathic pain"; Ne	ate, a high affinity o	annabinoid a	gonist in a rat model of	
	*1* Hillard C. J., Edg "Accumulation of N	emond, W. S., Ja	rrahian W., C	ampbell, W. B;	
	Cerebellar Granule	Cells Occurs via F			
	Neurochemistry; 69 *1* Horrevoets A.J.G	; 631-638 (199 <i>1)</i> S et al: "Inactivation	on of escheri	ichia coli outer	
	membrane phospho	lipase A by the at	finity label h	exadecanesulfonyl	
	fluoride"; Eur. J. Bio	ochem.; 198; 247-	253; 1991		
	*1* Horrevoets A.J.G et al; "Inactivation of reconstituted escherichia coli outer membrane phospholipase A by membrane-perturbing				
	peptides results in a	e pnospnolipase <i>i</i> en increased reac	A by membra tivity toward	ine-perturbing	
	hexadecanesulfony	l fluoride"; Eur. J.	Biochem.; 1	98; 255-261; 1991	
	Howlett et al; "Azido a	and isothicyanato s	ubstituted an	/l pyrazoles bind	
	covalently to the CB1 Journal of Neurocher			ir signal transduction"; 81; XP001097394	
	Howlett et al; "Stereo				
				ate cyclase and bind to	
<u> </u>	the cannabinoid rece				
	Huffman et al; "3-(1', compounds: synthesi and Medicinal Chemi	s of selective ligan	ds for the CB	2 receptor"; Bioorganic	
	Huffman et al; "Stere			eric delta 7-	
	tetrahydocannabinols	s"; tetrahedron; vol.	51(4); 1017-	1032; (1995)	
	Huffman et al; "Synthesis of 5',11 dihydroxy delta 8 tetrahydrocannabinol"; Tetrahedron, vol. 53(39), pp 13295-13306 (1997)				
	Huffman et al; "Synth	esis of a tetracyclic	c, conformation		
	analogue of delta8-T 2281-2288; 1998; XF	002123230			
	Huffman et al; "Synth	esis of both enanti		ilone from a common	
	intermediate. Enantic 1991, 56, 2081-2086		is of cannabir	noids"; J. Org. Chem.;	

INFORMATION DISCLOSURE		Application No. 09/600,786	Inventor Alexandros	Makriyannis et al
APPLICA		Title Cannabimimetic Lipid Amides as Useful Medications		
		Filing Date Group Art Unit Docket No. UCONAP/145/PC/U		
4		J, Benson JA; "Marijuana and Medicine Assessing the onal Academy Press, Washington, DC, USA (1999).		
	Kaminski NE; "Regularimmune function by control 15;83(1-2):124-32	annabinoid recepto	ors"; J Neuroi	mmunol. 1998 Mar
	*1* Kawase M. et al; methoxy-N-acylnitre methoxyamides: sy	enium ions genera nthesis of nitroge	ited from N-c n heterocycl	hloro-N- ic compounds
	*1* Khanolkar A., Ab	oadji V., Lin S., Hil	l W., Taha G.	·
	Z., Fan P., Makriyan arachidonylethanol Med. Chem.; vol. 39	amide, the endoge	nous canna	
	and Physics of Lipids	; 108; 37-52; (2000	))	d receptors"; Chemistry
	Exp Biol Med. 2000 (	Oct; 225(1):1-8; (ab	stract only)	ne network"; Proc Soc
	Klein TW et al, "Canr 1998 Aug; 19(8):373-		and immunity	"; Immunol Today;
	*1* Koutek B. et al; hydrolysis"; J. Biol. ISSN: 0021-9258; XI	Chem.; 269(37); 2		nolamide 94; CODEN: JBCHA3;
	Kumar RN, et al; "Ph and cannabinoids"; A	armacological actionnesthesia, 2001, 5	6: 1059-1068	
	Lan, R et al; "Structure activity relationships of pyrazole derivatives as cannabinoid receptor antagonists"; J. Med. Chem.; vol. 42(4); 769-776; (1999)			
	*1* Lang, W. et al; "Substrate Specificity and Stereoselectivity of Rat Brain Microsomal Anandamide Amidohydrolase"; J. Med. Chem.; vol. 42(5); 896-902; (1999)			
	Lavalle et al; "Efficier )-nopinene"; J. Org. (			ha-pinene to (1S, 5R)-(- 986)
	*1* Lin S., Khanolkar A., Fan P., Goutopolous A., Qin C., Papahadjis D. Makriyannis A.; "Novel Analogues of arachidonylethanolamide (anandamide): affinities for the CB1 and CB2 Cannabinoid Receptors and Metabolic Stability"; J. Med. Chem.; vol. 41; 5353; 1998			ethanolamide nabinoid Receptors

INFORMATION DISCLOSURE CITATION IN AN		Application No. 09/600,786		Makriyannis et al
APPLICA	PPLICATION  Cannabimimetic Lipid Amides as Useful Me  Filing Date Group Art Unit Docket No.  07/21/2000 1614 UCONAP/			
No	Loev, B., Bender, P. & "Cannabinoids. Struct	I E., Dowalo, F., Mac ture-Activity Studie	ko, E., and F Related to 1	owler, P.;  ,2-Dimethylheptyl
	Derivatives"; J. Med. Chem.; vol. 16(11); 1200-1206; 1973  Lozinskii, M.O., Bodnar, V.N., Konovalikhin, S.V., D'yachenko, O.A., Atovmyan, L.O.; "Unusual transformations of arylhydrazonoyl chlorides of oxalic acid ethyl ester"; Izvestiya Akademii Nauk SSSr, Seriya Khimicheskaya; 11; 2635-2637; 1990 (abstract only)			achenko, O.A., azonoyl chlorides of r, Seriya
	Ludt, R.E. et al; "A co	mparison of the sy ide in the metalatio	nthetic utility	
	*** Maccarron M., En Hormones 2002;65:2		d their action	s. Vitamins and
	*1* Mackie K., Devar cannabinoid, inhibit neuroblastoma cells	s calcium current	s as a partia	agonist in N18
	*** Markwell, M.A.K., modification of the Lo membrane and lipopr	wry procedure to s	implify proteil	n determination in the
				modeling evaluations v.; vol. 40(3); 471-478;
	Martyn CN. Illis LS, T sclerosis"; Lancet (19			nt of multiple
	Matsumoto et al; "Car tetrahydro-6h-dibenzo 1977; XP00211825	nnabinoids 1.1-am	no-and 1 me	
	Eur. Arch. Psychiat. C	d analgesic effects Clin. Neurosci. (199	in a single ca 0), 240:1-4. (	ase double-blind trial."; abstract only)
	Mavromoustakos, T. et al; "Studies on the thermotropic effects of cannabinoids on phosphatidylcholine bilayers using differential scanning calorimetry and small angle X-ray diffraction"; Biochimica et Biophysica Act vol 1281(2); 1996; XP002111823			ifferential scanning
	*1* Mechoulam et al Anandamide Type C Med. Chem.; 1997; 4	ompounds to the		_
A		ereochemical Requ		cannabinoid activity"; J.

INFORMATION DISCLOSURE		Application No. 09/600,786	Inventor Alexandros	Makriyannis et al	
CITATION APPLICA		Title Cannabimimetic Lipid Amides as Useful Medications			
		Filing Date 07/21/2000	Group Art Unit 1614	Docket No. UCONAP/145/PC/US	
70	Mechoulam et al; "Sy				
1 4	enantiomers of a tetra	rahydrocannabinol derivative"; Tetrahedron Asymmetry;			
	1: 311-314; (1990) (a	bstract only)			
				rmacologically distinct,	
1	enantiomers of a tetra	ahydrocannabinol o	lerivative."; To	etrahedron Asymmetry;	
1 1	1: 315-318; (1990)				
	*** Mechoulam, "Cani	nabinoids as thera	peutic agents	"; CRC press, 1986	
	*1* Melck, D., Bisogi				
	Bifulco, M., DiMarzo	, V.; "Unsaturated	l Long-Chain	N-Acyl-vanillyl-	
	amides"; Biochemic	al and Biophysic	al Res. Comr	nun.; (1999); 262(1);	
	275-284. (abstract or	nly)			
	Meltzer et al; "An imp	roved synthesis of	cannabinol a	nd cannabiorcol";	
	Synthesis; 1981:985				
	Melvin et al; "Structur				
	Cannabinoids Cannabinoid Receptor Binding and Analgesic Activity"; Drug				
	Design and Discovery; 13(2); 155-166 (1995). (abstract only)				
				binoid receptor-binding	
		r: studies of bicyclic cannabinoid analogs"; Mol.			
	Pharmacol.; 44(5); 10				
	Merck Index; 11th edi 1989	uon; retranydroca	annabinois co	ompound no. 9142;	
	*** Morgan Dr: Thera Publishers, Amsterda		nabis. Harwo	od Academic	
	*** Morris, S,; Mechou				
	Phenyl ethers with Po				
1 1	Oxidation with m-Chlo	properbenzoic Acid	, J. Chem. So	oc., Perkin Trans. 1	
	1987, 1423-1427	<del></del>			
				annabis in movement	
	disorders. Porsch. Ko	mpicmentarmed (1	1999) 6 (supp	l. 3) 23-27. (abstract	
	only)				
1 1	Muller-Vahl KB, Schneider U, Kolbe H, Emrich, HM.; "Treatment of Tourette's syndrome with delta-9-tetrahydrocannabinol." Am. J. Psychiat.				
	•	with deita-9-tetrany	urocannabino	oi. Am. J. Psychiat.;	
(1999); 156(3); 495.  *** Nahas G, Marijuana and Medicine; 1999, Human Press Inc.,			Press Inc. Totawa All		
<del> </del>	<u> </u>				
	*1* Neunhoeffer O., Gottschlich R.; "Acylating activity of O-acylated hydroxylamine derivatives"; Justus Liebigs Ann. Chem.; 736; 100-109 1970; in German with English abstract				

INFORMATION DISCLOSURE		Application No. 09/600,786	Inventor Alexandros I	Makriyannis et al
CITATION IN A APPLICATION	N	Title Cannabimimetic Lipid Amides as Useful Medications		
		Filing Date Group Art Unit Docket No. 1614 UCONAP/145/PC/US		
canr	Novak, J et al; "Cannabis, part 27, synthesis of 8-, 10- and 11-oxygenated cannabinoids; J. Chem. Soc. Perkin Trans.; 2867-2871; (1983) (abstract only)			1; (1983) (abstract
labe	lled with [H]-5'-tri	ty cannabinoid bind methylammonium o r.; vol. 234(3); 784-	delta8-tetrahyo	
Rece				pp. 170-183 and 172
	rity Relationships	and Synthetic End "; Current Pharmac		s and Their Structure- n; 6; 1381-1397;
conf	Papahatjis et al; "A new ring-forming methodology for the synthesis of conformationally constrained bioactive molecules"; Chemistry Letters, 192; (2001)			
mult		'-substituted delta8		nnabinoid side chains: nnabinols"; J. Med.
		0, a competitive ca 1949-1955; XP 00		eptor agonist"; Life
rece	-	he mouse isolated		ree novel cannabinoid ; Eur. J. Pharmacol.
*1* F canı prep	*1* Pertwee et al; "Inhibitory effects of certain enantiomeric cannabinoids in the mouse vas deferens and the myenteric plexus preparation of guinea-pig small intestine"; Br. J. Pharmacol.; 105(4); 980-984 (1992). (abstract only)			nyenteric plexus
Pert	wee; Pharmacolo	gy of cannabinoid . 74(2); pp129-180		-
Petro ".alp reac etho	Petrov, M.L., Terent'eva, N.A., Potekhin, K.A., Struchkov, Yu. T.; ".alpha.,.betaunsaturated thiolates and their analogs in cycloaddition reactions. XVIII. Reaction of (2-phenylethynyl)tellurolates with C-ethoxycarbonyl-N-Phenylnitrilimine"; Zhumal Organicheskoi Khimii; 29(7); 1372-1378; (1993) (abstract only)			kov, Yu. T.; in cycloaddition ates with C-
		Musty R.; Marinol a abinoid Rea. Sec.	•	limb pain: a case

	INFORMATION DISCLOSURE CITATION IN AN APPLICATION		Application No. 09/600,786	Inventor Alexandros	Makriyannis et al
			Cannabimimetic Lipid Amides as Useful Medications		
			Filing Date 07/21/2000	Group Art Unit 1614	Docket No. UCONAP/145/PC/US
	n	*1* Pinto et al; Cann Amides and Esters			
	$\mathcal{L}$	516-522. (abstract o		ad, Mot. Filat	
	1				, Goutopoulos A., Xiw
	ĺ	X-Q., Makriyannis A	.; "Structural dete	erminants for	recognition and
		translocation by the USA; 96; 5802-5807;		sporter, Fr	JC. Nati. Acad. Sci.
		Pitt et al; "The synthe		arbon-14 and	carrier free tritium
		labelled cannabinoids	•	lled Compour	nds; vol. 11(4); 551-
-		575; 1975; XP002123		Hruby V I	Burks T.F.; "Roles of
		mu, delta and kappa	•	•	·
		mediation of gastroi	intestinal transit e	effects and h	ot-plate analgesia in
			macol. Exp. Ther.	; 230(2); 341	-348; (1994). (abstract
	<del>                                     </del>	only)	dorived from conn	obinoido 6 S	Synthosis of ovolis
-		Razdan et al; "Drugs analogues of dimethy			
		1976 (abstract only)			
		*1* Razdan et al; "Pl			
	l		de Analogs"; Life	Sci.; 1995; 5	56(23-24); 2041-2048
-	+	(abstract only) Reggio et al; "Charac	terization of a regi	on of steric int	terference at the
		cannabinoid receptor			
		United States; vol. 36	(12); 1761-1771; 1	993	
	1				R.; Hanus, L.; Breuer,
		A.; and Mechoulam, I Receptors and Inhibit	ion of Adenylcycla	snvauves, bind se": J. Med. C	Chem. 1997. 40(20):
		3228-3233			
		Rice AS. Cannabinoi	•	Opin Investig (	Drugs. 2001
ļ		Mar;2(3):399-414. (al		- 1/14. "A -4:h	and a sign of a standard of a
	Richardson JD, Aanonsen I, Hargreaves KM; "Antihyperalgesic effects of a spinal cannabinoids"; Eur. J. Pharmacol. (1998) 346:145-153.				
	<u> </u>				ls reduce dryperalgesia
	and inflammation via interaction with peripheral CB1 receptors"; Pain (1998) 75:111-119.			receptors"; Pain (1998)	
		Rinaldi-Carmona et a	l; "Biochemical and	d pharmacolo	gical characterization of
	<i>y</i>				
		Richardson JD, Kilo S and inflammation via 75:111-119.	S. Hargreaves KM; interaction with pe I; "Biochemical and potent and selection."	"Cannabinoio ripheral CB1 i d pharmacolo ve brain cann	ds reduce dryperalgesia receptors"; Pain (1998) gical characterization of abinoid receptor

INFORMATION DISCLOSURE		Application No. 09/600,786	Inventor Alexandros	Makriyannis et al
CITATION APPLICA		Title Cannabimimetic Lipid Amides as Useful Medications		
		Filing Date Group Art Unit Docket No. UCONAP/145/PC/US		
	Rinaldi-Carmona et a			
	the brain cannabinoid receptor"; FEBS Lett.; 350; 240-244; (1994)			
		_	itz; "band 1-A	-C1, 8"; Aufl, Thieme
<del></del>	Verlag; Stuttgart, S 50		nd their desir	ativos IV Cumthasia
	of the derivatives of 1			atives. IX. Synthesis
	3); 183-188; 1993 (at		cia Folonae i	mannaceulica, 50(2-
			CB1 and CB	2: a characterization of
	expression and aden			
	Toxicol Appl Pharmac			, , , , , , , , , , , , , , , , , , ,
	*** Schuel, H., Burkm			akriyannis, A.,
	Cannabinoid receptor	rs in hum <mark>an sperm</mark> .	Mol. Biol. Ce	II., (1997) (8), 325a.
	*1* Serdarevich B., ( and 2-monoglycerid (1966)			aracterization of 1- ipid Res.; 7; 277-284;
	of N-aryl-C-ethoxycar	bonyl formohydraz	idoyl chloride:	of dehydrochlorination s"; Canadian Journal
<del></del>	Of Chemistry; 64(5); Shen M. Thayer SA:			rotect cultured rat
	hippocampal neurons			
	Shim et al; "Three-dir	•		•
	study of the cannabin			
	molecular field analys 002212407	····		· · · · · · · · · · · · · · · · · · ·
	Shim et al; "Unified pl			
	aminoalkylindoles de		•	
	cannabinoid receptor	_		
	Symposium series, 1999 719 (rational drug design), 165-184; XP-			
	Showalter et al; "Eval peripheral cannabino	id receptor (CB2): i	dentification of	d cell line expressing a of cannabinoid receptor 1996 278(3) 989-999;
	XP-001097918			
A	Simiand J, Keane M, receptor antagonist, s Behav. Pharmacol (19	selectively reduces	sweet food in	

INFORMATION DISCLOSURE		Application No. 09/600,786	Inventor Alexandros I	Makriyannis et al	
CITATION   APPLICA		Title Cannabimimetic Lipid Amides as Useful Medications			
		Filing Date 07/21/2000			
7		J. Med. Chem.; vol. 44, no. 15 (2001) pp. 2411-2420,			
	Terranova J-P, Storm rodents by the selecti Psycho-pharmacol (1	ve CB1 cannabino	id receptor an	tagonist, SR 141716";	
	Tius et al; "Conforma Steroeselective synth (1994) (abstract only	esis and activity"; 1			
	Ueda, N., Endocanna Mediators 2002;68-6	•	_	ns & Other Lipid	
	*1* Vogel Z., Barg J., Levy R., Saya D., Heldman E., Mechoulam R.; "Anandamide, a brain endogenous compound, interacts specifically with cannabinoid receptors and inhibits adenylate cyclase"; J. Neurochem.; 61(1) 352-355; (1993) (abstract only)			eracts specifically	
	Wagner JA, Varga K, by endothelia ananda	Jarai Z, Kunos G; mide receptors"; H	"Mesenteric v ypertension (	1999) 33:429-434.	
	Watanabe, T.; Miyaura, N.; and Suzuki, A.; "Synthesis of Sterically Hindered Biaryls via the Palladium Catalyzed Cross-Coupling Reaction of Arylboronic Acids or their Esters with Haloarenes"; Synlett 1992, 207-210			eaction of Arylboronic	
	Wiley et al; "Structure cannabinoids"; J. Pha 001097982				
	intersts"; J. Med. Che	m.; 17(4); 475-476	; (1974)	nnabinoid of metabolic	
	Wilson et al; "Analges metabolites and analges	ogs"; J. Med. Chem	ı.; 18(7); 700-	703; (1975)	
	Wilson et al; "9-nor-9-hydrohexahydrocannabinols. Synthesis, some behavioral and analgesic properties, and comparison with the tetrahydrocannabinols"; J. Med. Chem.; 19(9); 1165-1167; (1976)			with the	
	Yamada et al; "(Amin affinity ligands for the 39(10), 1967-1974	oalkyl)indole isothic brain cannabinoid	ocyanates as receptor"; J. l	potentiual electrophilic Med. Chem. 1996, vol.	
	Yan, Guo et al; "Synti (1'-1'-dimethylheptyl)i agonist"; J. Med. Che	nexahydrocannabir	nol: a high affi		

Application No. Alexandros Makriyannis et al 09/600,786 INFORMATION DISCLOSURE **CITATION IN AN** Title Cannabimimetic Lipid Amides as Useful Medications **APPLICATION** Group Art Unit Docket No. 07/21/2000 UCONAP/145/PC/US 1614 Yan Guo et al; "(-)-11-hydroxy-7'-isothiocyanato-1'-1'dimethylheptyl-delta8-THC: a novel probe for the cannabinoid receptor in the brain"; J. Med. Chem.; 37(23); 3867-3870; (1994) **Date Considered** Examiner EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP §609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.